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TIMBER TALK

Nebraska Forest Industry Newsletter

Nebraska Forest Service | Institute of Agriculture and Natural Resources | University of Nebraska-Lincoln

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In This Issue

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The Nebraska Forest Service publishes **Timber Talk** four times annually (March 1, June 1, September 1, and December 1) to serve the forest industry of Nebraska. All questions and correspondence concerning **Timber Talk** should be directed to: Adam Smith, **Timber Talk** Editor, Nebraska Forest Service, University of Nebraska, 101D Forestry Hall, P.O. Box 830815, Lincoln, NE 68583-0815

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Lumber Market Reports

Northern - Responses to a recent survey provided mixed results about log receipts and inventories. A little over half of the respondents stated log supplies have improved; 28% reported lower log inventories; and about 15% indicated log decks were about the same. The variations were geographic. All respondents in Michigan and Wisconsin acknowledged log supplies have increased, with some stating they are the best they have been in years. The recent ruling that allows logging trucks in Wisconsin to carry a maximum 98,000 pounds on frozen roads has not hurt either. The opposite was true in the New England region, where the majority of survey participants indicated log decks have declined. But because most sawmill operators entered 2018 with decent log piles, 72% of the survey respondents said mill output is the same or higher than last year; only 28% reported lower production. The drive to produce has been spurred by strong demand for lumber and industrial products. Domestic and international markets are performing well, and there is no indication demand will falter in the near term. US and global economies continue to strengthen in 2018.

Southern - End users reported higher volumes of green lumber receipts this week than the past several weeks. Most sawmill operators are working full work schedules and adding hours as possible. Some smaller mills are struggling to obtain enough logs to run consistently, which continues to impact industrial markets. Demand for grade lumber is good for mills and resellers; they are shipping total production with little difficulty. Reports state that kiln dried sales are keeping pace with developing availability of most species, grades, and thicknesses and are exceeding supplies of others. Shipments to China have resumed following their New Year celebration, and shipments to other parts of the world are solid.

Appalachian - Exports have largely driven growth in US hardwood grade lumber demand for quite some time, whereas domestic consumption has registered only incremental growth. At the present time, exports are robust to China and decent to several other destinations, like Vietnam, Mexico, Japan, and certain EU and Middle Eastern countries. However, the improving US economy is aiding domestic markets, and they are beginning to make larger contributions to overall demand. This is especially evident in lumber producers' comments about trends in business for various markets. Most describe demand as decent to vibrant from the distribution, cabinet, residential flooring, truck trailer flooring, moulding, millwork, and wood component sectors. The same is true for pallet cant and crosstie markets, which posted marked increases in demand toward the end of last year. Business is not necessarily booming for US and Canadian end users. At the same time, US and Canadian manufactured goods sales have grown consistently for most sectors since the rebound in the US economy, and some are registering their best results in several years.

(Source: Condensed from *Hardwood Market Report*, February 2, 2018. For more information or to subscribe to *Hardwood Market Report*, call (901) 767-9216, email: hmr@hmr.com, website: www.hmr.com)

Hardwood Lumber Prices - Green

	FAS				#1C				#2A			
Species	**2/18**	**11/17**	**8/17**	**5/17**	**2/18**	**11/17**	**8/17**	**5/17**	**2/18**	**11/17**	**8/17**	**5/17**
Ash	1100	1020	1020	1000	750	700	675	650	420	390	360	340
Basswood	790	790	800	815	440	450	460	485	225	225	240	260
Cottonwood	780	780	780	780	575	575	560	560	260	260	260	260
Cherry	1490	1350	1230	1125	965	860	770	700	525	475	420	385
Elm	650	650	650	650	420	420	420	420	290	290	300	300
Hackberry	530	530	530	530	480	480	480	480	295	295	295	295
Hickory	920	880	860	820	610	580	550	525	450	425	395	385
Soft Maple	1200	1245	1265	1265	790	805	845	795	480	480	480	470
Red Oak	1205	1115	1095	1095	865	810	785	785	545	520	500	500
White Oak	1605	1560	1605	1630	950	920	785	875	530	505	500	505
Walnut	3050	2750	2600	2515	1750	1560	1400	1325	1060	910	765	750

Note: Lumber prices quoted in $/MBF, average market prices FOB mill, truckload and greater quantities, 4/4, rough, green, random widths and lengths graded in accordance with NHLA rules. Prices for ash, basswood, northern soft grey elm, unselected soft maple, red oak and white oak from Northern Hardwoods list. Prices for cottonwood and hackberry from Southern Hardwoods list. Prices for cherry, hickory and walnut (steam treated) from Appalachian Hardwoods list. (Source: *Hardwood Market Report (HMR)* , above prices are from the 1st issue of the indicated month. To subscribe to HMR, call 901-767-9126; email hmr@hmr.com; or go to www.hmr.com.)

Hardwood Lumber Prices - Kiln Dried

	FAS				#1C				#2A			
Species	**2/18**	**11/17**	**8/17**	**5/17**	**2/18**	**11/17**	**8/17**	**5/17**	**2/18**	**11/17**	**8/17**	**5/17**
Ash	1530	1490	1470	1470	1170	1130	1085	1040	825	780	745	700
Basswood	1180	1180	1180	1200	725	725	725	760	485	485	525	485
Cottonwood	1025	1025	1025	1005	770	770	770	750	----	----	----	----
Cherry	2050	2100	1850	1740	1415	1440	1270	1150	920	970	780	700
Elm	----	----	----	----	----	----	----	----	----	----	----	----
Hackberry	----	----	----	----	----	----	----	----	----	----	----	----
Hickory	1520	1500	1490	1470	1120	1080	1040	1020	940	910	840	800
Soft Maple	1570	1660	1755	1755	1175	1215	1215	1185	800	810	810	785
Red Oak	1695	1650	1610	1610	1350	1340	1340	1280	1000	1000	980	930
White Oak	2200	2175	2250	2275	1575	1560	1560	1520	1085	1070	1070	1015
Walnut	4300	4160	4070	4070	2725	2625	2425	2250	1820	1740	1590	1470

Note: Kiln dried prices in $/MBF, FOB mill, is an estimate of predominant prices for 4/4 lumber measured after kiln drying. Prices for cottonwood and hackberry from Southern Hardwoods list. Prices for ash, basswood, northern soft grey elm, unselected soft maple, red oak, and white oak from Northern Hardwood list. Prices for cherry, hickory and walnut (steam treated) from Appalachian Hardwoods list. (Source: Hardwood Market Report (HMR), above prices are from the 1st issue of the indicated month. To subscribe to HMR, call 901-767-9126; email hmr@hmr.com; or go to www.hmr.com.)

Pallet Lumber - Green

Dimension	**2/18**	**11/17**	**8/17**	**5/17**
4/4 x RW	265	245	245	245
5/4 x RW	290	290	290	290
6/4 x RW	315	315	315	315
4/4 x SW	360	340	330	330
5/4 x SW	390	365	365	365
6/4 x SW	400	380	380	380

Ties (7x9) - Green

Region	**2/18**	**11/17**	**8/17**	**5/17**
Crossties	----	----	----	----
Northern - 8.5'	24.5-27.75	24.5-27	24.5-27	24.5-27
Appalachian (South) - 8.5'	25.75-29.5	24.5-28.25	24-28.25	24-28.25
Appalachian (North) - 8.5'	25.5-28.5	24.5-28	24-28	24-28
Southern (West) - 9'	25-30	24.5-30	24-30	24-30
Southern (East) - 8.5'	24-29.50	23.5-29.25	23-29.25	23-29.25

Note: Pallet lumber prices quoted in $/MBF, average market prices FOB mill, truckload and greater quantities, rough, green, random widths and lengths graded in accordance with NHLA rules. Tie prices quoted in $/piece, average market prices FOB mill. Prices for pallet lumber from Northern Hardwood list. Prices for ties from the respective regional lists. (Source: Hardwood Market Report (HMR), above prices are from the 1st issue of the indicated month. To subscribe to HMR, call 901-767-9126; email hmr@hmr.com; or go to www.hmr.com.)

Evaluating Timber Harvest Potential in Western Nebraska

By Adam Smith, *Nebraska Forest Service*

Developing markets for Nebraska's ponderosa pine and eastern redcedar timber resources remains a priority. Healthy markets for these forests provide economic development opportunities for rural communities and decrease wildfire threats through increased management. Having witnessed the impacts of wildfire across the Niobrara Valley and the Pine Ridge in north central and northwest Nebraska, the Nebraska Forest Service sought to determine the amount of timber still available for harvest in these regions. Establishing sustainable new markets for these timber resources relies heavily on ensuring that there will still be a resource available into the future.

The goal of this project was to determine the short and long-term availability of timber species, products and volumes to sustain new and existing wood products facilities in northwest and north-central Nebraska. The existing forests, both public and private, were inventories using 2000+ random plots throughout the Pine Ridge and Niobrara River Valley regions in 2016 and 2017. The data collected from these plots provided information on volume, growth, regeneration and several other attributes. In addition to forest resource and production data, this report contains historical forest data, existing forest industry information, current and potential wood markets, ownership trends and attitudes, and current infrastructure.

Forest Density

The initial phase of the process involved determining the total acres of remaining forest and evaluating the density of forest stands. Using aerial images, forested areas were broken into individual stands of trees and each stand was characterized by forest density as either savanna (few trees with large space between trees), light density (many trees with some space between trees), and heavy density (many trees with little space between trees).

Pine Ridge - This process identified 166,000 forested acres in the Pine Ridge region. Of that total, approximately 48,000 acres were classified as heavy density, 75,000 acres were classified as light density and 43,000 acres were classified as savanna forests,

Niobrara Valley - Approximately 121,000 acres of forest were found in the Niobrara Valley project area. There were 79,000 acres of classified as heavy density, 24,000 acres in light density and 18,000 acres of savanna forests.

Example of aerial view before classification

Example of aerial view after classification

Evaluating Pine Harvest Continued from page 1

Forest Inventory

Once we had indentified our forested areas, over 2,000 forest inventory plots were installed across the project area, working with both public and private landowners. Data collected at each plot included plot characteristics such as slope and aspect to determine if trees grow differently on different types of locations. Individual tree data were also collected including stem diameter, tree height, tree taper and tree canopy height to provide standing volume estimates. For trees which were large enough to produce sawlogs, information was also collected to describe the amount of log defect was in each tree. On selected plots, tree age was collected to determine how much the trees were growing each year.

Standing Timber Volume Estimates

The information collected during the on-the-ground inventory process was used to determine the amount of timber volume currently in the forest, as well as how much the forest will grow each year into the future. This information is crucial for businesses when determining the amount of timber available for harvest each year.

Standing volume by region is shown in the following table. This represents the volume of wood currently on the landscape within the project areas. Volumes are described in both board feet for sawtimber trees and in cubic feet for all trees (including the saw timber trees) to the very top, which includes biomass. Sawtimber trees were defined as those over with a DBH greater than 9 inches, and the cubic foot volume was calculated to a 6-inch top diameter.

Standing Timber Volume by Region

Region	Forest Type	Board Foot (Sawtimber)	Cubic Foot (All trees)
Niobrara Valley	Ponderosa Pine	511,153,026	146,150,760
	Eastern Redcedar	183,153,803	90,417,947
	Total	*694,306,830*	*236,568,707*
Pine Ridge	Ponderosa Pine	426,512,272	111,329,499
Total		**2,617,940,549**	**795,118,339**

Harvest Potential

Typically, annual harvest potential is determined by evaluating the annual growth of the trees in the region. The increase in volume each year, minus the volume which is already being removed for markets or through management, is termed the annual sustainable harvest. Managed ponderosa pine forests can experience 2-4% annual growth. However, due to lack of forest management and reduced market opportunities, leading to increased forest densities, increased competition for resources for tree growth such as soil nutrients, water, and light and impacts of wildfires, Nebraska's ponderosa pine forests are growing at a slower rate. In the Niobrara Valley, annual growth of pine was restricted to 0.54%, while in the Pine Ridge growth was restricted to 0.55% Redcedar growth in the Niobrara Valley was slighty better at 0.76%.

Taking into account the depressed growth of our pine and redcedar forests, our harvest projection is based on strictly harvesting volume from the overly dense, fire-prone stands in the Pine Ridge and Niobrara Valley. Targeting just these areas, using current forest management guidelines to reduce densities to a safe level over a 5 year harvest period, **approximately 27 million board feet of sawtimber** is available for harvest annually in north central and northwest Nebraska. This represents a significant finding as this resource provides excellent opportunity for Nebraska's forest products industry.

The Nebraska Forest Service will work with local economic development partners to identify market opportunities to expand or develop businesses suited to utilize this wood resource.

The final report for this effort is still being finalized. When complete, it will be available on the Nebraska Forest Service website; www.nfs.unl.edu. If you would like a paper copy of the report or have questions regarding the project, please contact Adam Smith at 402-472-1276 or asmith11@unl.edu.

Lincoln Schools, NFS to Demonstrate Urban Lumber Use

By: Adam Smith, Nebraska Forest Service

According to a recent inventory, there are approximately 14,000 ash trees on public property in the City of Lincoln. The City has been proactive in their management strategy, targeting ash trees for removal each year to lessen the burden when emerald ash borer inevitably reaches the City. In an effort to put the wood waste to a beneficial use, the City of Lincoln, Lincoln Public Schools and the Nebraska Forest Service are partnering to provide kiln-dried, rough lumber to students participating in woodworking classes in Lincoln Public Schools.

Ash is a popular species for woodworkers. With characteristics similar to red oak, without the reddish hue, ash machines easily, finishes well, and provides a unique conversation starter--especially when that ash lumber came from a community forest. Lumber from community trees is largely the same as lumber from traditional forest settings. The trees may not necessarily look the same as urban trees tend to have shorter log lengths than traditional forest trees, but the lumber is essentially identical. This project aims to not only demonstrate the beauty of ash wood products and the opportunities available to utilize urban wood waste, but it will also evaluate the suitability of urban lumber to be used for fine woodworking, a common question regarding the use of urban wood.

Ash wood being milled during a demonstration project in 2017.

Over the next couple of months, the City will be providing ash logs to the Nebraska Forest Service. The Nebraska Forest Service will then process those logs into 4/4 and 8/4 (1" or 2") lumber and dry the lumber in its dehumidification kiln in Plattsmouth. The lumber will be provided to Lincoln Public Schools in time for the Fall 2018-Spring 2019 school year. During the school year, an evaluation of the lumber will take place to determine if there were unacceptable defects or other characteristics which made the urban ash lumber problematic during the student projects.

Aside from the lumber use aspects of the project, the Nebraska Forest Service will also conduct a cost assessment related to the manufacture and drying of urban lumber. The intent is to develop information which can be used by portable sawmill operators to gain a better understanding of costs associated with producing lumber from community trees.


The NFS kiln will be used to provide high-quality dry lumber to LPS stduents.

Community trees have always been a wood resource available to individuals and businesses. As emerald ash borer increases it impacts on our community forests in the years to come, sure to be followed by another devastating pest in the future, there will be more and more wood waste generated from our community forests. While the resource is there, developing individuals and businesses who are capable of utilizing the wood waste will be the key to reducing the waste of community wood resources.

With this partnership, we hope to answer two key questions:

- "Can you get quality lumber from community trees?"
- "What are the costs associated with producing lumber from urban trees?"

Look forward to project updates in future editions of Timber Talk.

Nebraska Forest Industry Spotlight

Located in Elkhorn, Nebraska, **Cutting Edge Mill** is an ambitious new sawmill and woodworking business grown from a lifelong passion of working with wood. Don Nelson was introduced to sawmilling by his grandfather, Kenneth, who used the mill for personal use and was also an avid woodworker. In the early 1990's, Don, his brother Jeff, and their father bought their first sawmill; a Wood-Mizer LT40, entirely manual. Their first project was milling large beams from deconstructed barns and over the years the trio took on small jobs and used the mill for personal projects.

When Don retired in 2015, he and his wife, Deb, decided to turn what had been a hobby into a business. Upgrading from the original mill, a Wood-Mizer LT70 arrived on site in May of 2016 that has hydraulics, computer set works, and the capacity to handle wide logs. They have also invested in a double sided planer, a large capacity dehumidification kiln, and the equipment to fabricate industrial metal legs and bases for their custom creations.

Don and his team at Cutting Edge Mill take pride not only in their craftsmanship, but also in their environmental impact. Most of the logs that are used by Cutting Edge Mill would have otherwise ended up in a landfill. Working with tree care companies and farmers removing windbreaks, Don has been able to secure a supply of logs including high value species such as black walnut, and unique species like red elm and hackberry.

"If you can imagine it, we can build it," Don said of his custom woodworking. Cutting Edge Mill as produced everything from fireplace mantels, tables, and bar tops to hobby and craft wood and kiln dried slabs. Their work is for sale at the Brass Armadillo Antique Mall in Omaha or you can stop by their shop in Elkhorn on Tuesdays and Thursdays to browse their selection of custom furniture and wood slabs. In addition to custom woodworking, Cutting Edge Mill also offers sawmilling services.

For more information please visit Cutting Edge Mill on Facebook or their website at cuttingedgemill.com. You can also contact Don or Deb directly at (402) 333-2112 or via email at debnelson2009@icloud.com

Nebraska Forest Service to Offer Free Biochar Workshop

As part of the Great Plains Biochar Initiative, the Nebraska Forest Service and national biochar expert Kelpie Wilson of Wilson Biochar Associates will be hosting a free biochar workshop in Ord, NE on March 27th. The workshop will include an overview of biochar, discussion of beneficial utilization options, as well as a hands on learning opportunity on the production of biochar.

Kelpie Wilson of Wilson Biochar Associates has over 30 years' experience in renewable energy, sustainable forestry, and resource conservation. Since 2008 she has focused on biochar. From 2008-2012 she was employed by the International Biochar Initiative and was responsible for managing a multi-stakeholder process to draft the first international standards and testing guidelines for biochar. She is on the board of the US Biochar Initiative and is a founder and contributing editor to The Biochar Journal.

When: Tuesday March 27th, 9AM to 4PM

Where: Ord, NE (Valley County Fairgrounds)

How to Register: https://nfs.unl.edu/workshops
No registration fee but will need a head count before the event.

Contact Heather Nobert: hnobert2@unl.edu, 402-782-1453

Upcoming Wood Products Workshops

Nebraska Biochar Manufacturing and Utilization Workshops, Ord, NE, March 27, 2018 (no cost).
Contact Heather Nobert: hnobert2@unl.edu
Rgistration website: https://nfs.unl.edu/workshops

The 49th Annual Dry Kiln Operator's Short Course, Raleigh, NC, June 5 - 8, 2018.
Contact Phil Mitchell: phil_mitchell@ncsu.edu
Registration website: http://go.ncsu.edu/dry-kiln-short-course

NHLA Hardwood Lumber Grading Workshop, Raleigh, NC, June 19 - 21, 2018.
Contact Phil Mitchell: phil_mitchell@ncsu.edu
Registration website: http://go.ncsu.edu/hardwood-lumber-grading

Profitable Small Sawmills and Firewood Businesses Workshop, Princeton, WV, early June 2018.
Contact Harry Watt: harry_watt@ncsu.edu or 704-880-3067

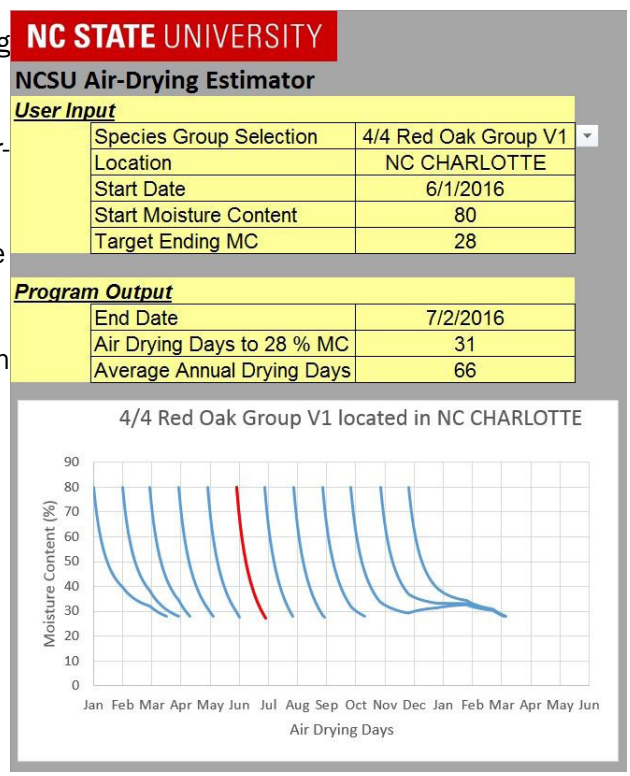
Automation Update for Cabinets, Furniture and Millwork, Statesville, NC. Mid-May, 2018.
Contact Harry Watt: harry_watt@ncsu.edu or 704-880-3067

Thick Lumber Slabs: Sourcing, Sawing, Air Drying, Kiln Drying, & Marketing, Morganton, NC, May 2018.
Contact Harry Watt: harry_watt@ncsu.edu or 704-880-3067

National Firewood Workshop sponsored by Michigan State University, to be in Michigan, June 2018.
Contact Harry Watt: harry_watt@ncsu.edu or 704-880-3067

Tool for Estimating Air-Drying Time for Lumber

Lumber is often air-dried for months prior to being kiln dried. The air-drying yard manager must decide when to stop air-drying and move the lumber to the dry kiln. The Air-Drying Estimator Excel spreadsheet is based on previous air-drying of lumber research. The intent of the Air-Drying Estimator is to help the air-drying yard manager estimate how long to air-dry lumber prior to kiln drying based on species group, U.S. location, the start date, initial moisture content, and the target or ending moisture content. The Air-Drying Estimator will estimate the date the lumber dries to the target moisture content, the number of air-drying days required for the base case and for lumber placed on the yard each month, and displays drying curves.



Download the "Air-Drying Estimator.xls" spreadsheet (or email phil_mitchell@ncsu.edu to get the xlsx version). http://bit.ly/2CKiGeA

Download the Wood Products Note Article "Using the Air-Drying Estimator to Predict the Air-Drying Time for Lumber." http://bit.ly/2BS8sfo

Trading Post

The Trading Post is provided as a free marketing service for forestry industry. Only forestry-related advertisements will be accepted. Please submit written ads to the Timber Talk editor at least 15 days before scheduled Timber Talk publication dates. Ads may be edited to meet space constraints.

For Sale

Sawmill. Mighty Mite bandsaw. 20 HP electric motor, tandem axles w/ brakes on one axle, 36" x 24' log capacity, (have cut 46" beams) hydraulic operation includes winch, knees, taper, near arm, dogging arms, far arm, dogging spike, log loading arms, and electric clutch and blade lift. Includes automatic blade sharpener, setting machine, 12 used blades and 4 new blades. Excellent condition. Never been used commercially. $17,500. Contact: Gary Fisher, Crawford, NE. Phone: 308-665-1580; email: fisher@bbcwb.net.

Walnut Lumber. All dimensions. $3.00 per board foot. Falls City, NE. Contact: Bruce Walker at 402-245-2031.

Dehumidification Kiln. Complete dehumidification kiln with Nyle drying system. Includes insulated kiln chamber (22.5' x 8' x 8' retrofitted produce container), digital kiln controls, wet and dry bulb thermometers, internal air flow system, directional fans, hanging ceiling baffles, some powered external exhaust fans, and internal rail system for loading entire kiln packages onto rail cart and rolling the charge into the kiln. Drying package size is approx. 6' wide x 5' tall x 20' long. $4,900. Contact Brian Schwaninger, Big Red Sawmill, 402-525-2095.

Services and Miscellaneous

Woodshop Services. Millwork made from your lumber on my planer/molder. Chris Marlowe, Butte, NE 402-775-5000. Marlowepasture@nntc.net.

Sawmill Service and Supplies. Saw hammering and welding. Precision knife and saw grinding. Contact: Tim Schram, Schram Saw and Machine, PO Box 718, 204 E. 3rd St., Ponca, NE 68770, 402-755-4294.

Used Portable Sawmills. North America's largest source of used portable sawmills and equipment. Contact: Sawmill Exchange, 800-459-2148, website: www.sawmillexchange.com.

Wanted

Wood Residue. Slab wood, cutoffs, sawdust, mulch, bales, etc. Lincoln, NE. Call Scott Hofeling at 402-432-0806 or email scott@hofelingenterprises.com.

Logs and Slabwood. Cottonwood, cedar and pine. 4-26" diameter and 90-100" lengths. Below saw grade logs acceptable. Contact: American Wood Fibers, Clarks, NE at 800-662- 5459; or email: Pat Krish at pkrish@AWF.com

Cottonwood Logs. Veneer-quality cottonwood logs, 16-36" diameter, 7' and longer. Pick up service available. Contact: Barcel Mill & Lumber, Bellwood, NE 68624. Ask for Barton or Megan. Phone: 800-201-4780; email: bj@barcelmill.com.

Timber Sales

The following listings are for stands of timber or logs being offered for sale by owners or persons of delegated authority. Timber was cruised and/or marked for harvest by the Nebraska Forest Service or other professional foresters. Volumes in board feet (Doyle scale unless otherwise indicated) are estimates by the forester. If no volume is listed, the trees or logs were not marked by a forester and the listing is included only as a marketing service to the owner. Listings are prepared according to the information at the time of publication.

Sale Name	Available Timber	Forester/Date	Contact
Nicholson	Ponderosa pine timber (not marked) Estimate = 1,000 operable acres @ 1.5MMBF. Some old logging roads exist from sawlog harvest 75 - 100 years ago.	Nickerson/2018	Craig Nicholson Cell: 605-376-2687 Res: 605-341-0884 pcranch2@msn.com Sioux County, Nebraska